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JUL 31 2006

DOCKET NO. P05827
SERIAL NO. 10/803,273
PATENT

REMARKS

Claims 1-20 were pending in this application.

Claims 13-20 have been withdrawn from consideration and are hereby cancelled.

Claims 1-4, 6-8, 10, and 12 have been rejected.

Claims 5 and 11 have been objected to.

Claims 1-5 and 7-11 have been amended as shown above.

Claims 21-28 have been added.

Claims 1-12 and 21-28 are now pending in this application.

Reconsideration and full allowance of Claims 1-12 and 21-28 are respectfully requested.

I. OBJECTIONS TO CLAIMS

The Office Action objects to Claims 2, 4, 6, 8, 10, and 12 as being improper dependent claims because they allegedly fail to further limit the scope of any previous claims.

Regarding Claims 2 and 8, Claims 1 and 7 recite that a "portion" of "deposited polysilicon material" extends laterally over "at least one edge" of a trench. Claims 2 and 8 have been amended to recite that depositing the polysilicon material includes forming the polysilicon material with portions that extend laterally over "all edges" of the trench. Claims 1 and 7 do not require that the polysilicon material have portions extending laterally over "all edges" of the trench. As a result, Claims 2 and 8 further limit the scope of Claims 1 and 7, respectively.

Regarding Claims 4 and 10, Claims 3 and 9 have been amended to recite that a silicon dioxide liner is grown on "horizontal portions of [a] substrate" that are "adjacent to" the trench.

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Claims 4 and 10 recite that the "portion" of the polysilicon material "extends laterally over [the] horizontal portions of [the] substrate" that are "covered with the silicon dioxide liner." Claims 3 and 9 do not require that the portion of the polysilicon material extend laterally over the horizontal portions of the substrate "covered with the silicon dioxide liner." As a result, Claims 4 and 10 further limit the scope of Claims 3 and 9, respectively.

Regarding Claims 6 and 12, Claims 1 and 7 recite depositing "polysilicon material" on top of a "filled trench." Claims 1 and 7 are silent regarding the actual thickness of the polysilicon material. Claims 6 and 12 recite that an "initial height" of the polysilicon material deposited on top of the trench is selected such that the height is sufficient for the polysilicon material to survive "at least one subsequent etch procedure" or "at least one subsequent oxidation procedure." The Office Action asserts that the "polysilicon inherently would be able to survive [an] oxidation process that only oxidizes a layer of the surface of the polysilicon." (*Office Action, Page 2, Last paragraph*). The Office Action acknowledges that an oxidation process could oxidize a surface layer of the polysilicon. If the polysilicon were thin enough, this oxidation process could oxidize all of the polysilicon material deposited on top of the filled trench. As a result, Claims 6 and 12 further limit the scope of Claims 1 and 7, respectively, by specifying the "initial height" of the polysilicon material deposited on top of the filled trench.

Accordingly, the Applicant respectfully requests withdrawal of the objections to the claims.

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II. REJECTION UNDER 35 U.S.C. § 102

The Office Action rejects Claims 1-4, 6-8, 10, and 12 under 35 U.S.C. § 102(a) as being anticipated by U.S. Patent No. 6,624,044 to Ito et al. ("*Ito*"). The Office Action rejects Claims 1-4, 6-8, 10, and 12 under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,776,808 to Muller et al. ("*Muller*"). These rejections are respectfully traversed.

A prior art reference anticipates a claimed invention under 35 U.S.C. § 102 only if every element of the claimed invention is identically shown in that single reference, arranged as they are in the claims. (MPEP § 2131; *In re Bond*, 910 F.2d 831, 832, 15 U.S.P.Q.2d 1566, 1567 (Fed. Cir. 1990)). Anticipation is only shown where each and every limitation of the claimed invention is found in a single prior art reference. (MPEP § 2131; *In re Donohue*, 766 F.2d 531, 534, 226 U.S.P.Q. 619, 621 (Fed. Cir. 1985)).

The Applicant has amended Claims 1 and 7 to recite placing a "layer of oxidation material" over a "portion of the deposited polysilicon material" that is "over [a] trench" and that extends laterally over "at least one edge of the trench." These elements are based on the recitations in Claims 5 and 11, which the Office Action has indicated are patentable over the cited art.

The Applicant respectfully submits that Claims 1 and 7 as amended are patentable over the cited art. For example, *Ito* recites forming a gate electrode 17 (Figure 6B) or 28 (Figure 11A) over a trench. (Col. 8, Line 62 – Col. 9, Line 9; Col. 9, Lines 51-67). However, *Ito* does not recite placing a "layer of oxidation material" over a "portion of the polysilicon material" that is "over the trench" and that extends laterally over "at least one edge of the trench" as recited in

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Claims 1 and 7. Similarly, *Muller* simply illustrates the formation of a structure in Figures 2A through 2H. (*Col. 3, Lines 65 – Col. 5, Lines 47*). *Muller* does not recite placing a “layer of oxidation material” over a “portion of the polysilicon material” that is “over the trench” and that extends laterally over “at least one edge of the trench” as recited in Claims 1 and 7.

For these reasons, Claims 1 and 7 (and their dependent claims) are patentable. Accordingly, the Applicant respectfully requests withdrawal of the § 103 rejection and full allowance of Claims 1-4, 6-8, 10, and 12.

III. NEW CLAIMS

The Applicant has added new Claims 21-28. The Applicant respectfully submits that no new matter has been added. At a minimum, the Applicant respectfully submits that Claims 21-28 are patentable for the reasons discussed above. The Applicant respectfully requests entry and full allowance of Claims 21-28.

IV. CONCLUSION

The Applicant respectfully asserts that all pending claims in this application are in condition for allowance and respectfully requests full allowance of the claims.

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SUMMARY

If any outstanding issues remain, or if the Examiner has any further suggestions for expediting allowance of this application, the Applicant respectfully invites the Examiner to contact the undersigned at the telephone number indicated below or at *wmunck@munckbutrus.com*.

The Commissioner is hereby authorized to charge any fees connected with this communication (including any extension of time fee) or credit any overpayment to Deposit Account No. 50-0208.

Respectfully submitted,

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